

3/2/20



The pages of this booklet are designed for your help in deciding by what method you will warm your home.

We have only been able to present a few photographs of Residences and etc., which have been heated with our "Distributor," but we shall be glad to furnish, upon application, an extended list of Users and Architects.

We have Agencies throughout New England, in the Middle States and in portions of the West; and have Agency for the Gulf States in New Orleans, La.

We are prepared at all times to advise with our Agents and their Clients with capable and experienced engineering advice.

Over 300,000 Spear Appliances of various kinds have been made and sold.

We want you to tell us what you require in the Stove line; we have a Stove for every purpose—HEATING or COOKING, for HOUSE, STABLE OR GARAGE, FOR HOTEL OR INSTITUTIONS; those that burn coal and others that burn wood.

We only ask that the Merit of SPEAR goods be considered when you make comparisons; if they are not worth the difference in cost we do not expect you to use them.

We solicit an opportunity for SPEAR products to assist in making the home comfortable.

JAMES SPEAR STOVE AND HEATING CO.
1014-1016 Market Street, Philadelphia

INTRODUCTORY



THE temperature of Winter requires some means of artificially heating the home in order to have it comfortable. This necessity has been provided for by many methods; beginning with the Log Fires of our Forefathers, until the present day provides a number of different plans, with varying efficiency and cost.

Years of experience have taught us that the most satisfactory, hygienic and comfortable method of heating is a Warm Air System.

The very unsatisfactory old "Hot Air" Plan led to many roundabout and unsuitable methods, especially for house heating, taking up too much valuable space in the living portion of the home and adding anything but artistic finish to the rooms—although they do, perhaps, save a little space in the cellar; methods which also largely depended on the reheating of air or the leakage from windows and doors for fresh air.

The Spear System of Warm Air Heating provides an Apparatus of sufficient capacity, having a heating surface two or three times greater than the ordinary Heater with the same size Fire-Pot, provides for the heating of a large volume of Warm Air. Cool fresh air is brought in from the outside by means of Underground Duct or Galvanized or Wooden Box and admitted at the base of the Heater, passes over the cast-iron heated surfaces and is distributed from the dome of the Heater by means of suitable size heat pipes, and in large enough quantities to heat all apartments to a comfortable, Summer temperature in coldest Winter weather, either on a still cold day or a windy blustering Winter night.

If desired, the air may be filtered through a muslin frame as it passes into the air duct, and with our Improved Air Moisteners, you may evenly moisten all the air as it passes out the dome of the Heater.

You will see by these few introductory sentences that we wish not only to provide an Appliance to heat your home, but one that will supply the *best quality* of heat and at as *economical cost*, both as to installation and maintenance, as is consistent with good workmanship and your requirements.

The following pages describe and illustrate "Spear's New Warm Air Distributor," give some information that may be helpful, and also contain a few photographs of Residences and Churches heated by our System.

It may be installed by any competent Heating Contractor, ask him to estimate for you, or send word to us for the name of our Agent in your Vicinity.

JAMES SPEAR STOVE AND HEATING CO.

1014-16 Market Street, Philadelphia

What We Claim for SPEAR'S NEW WARM AIR DISTRIBUTOR

Durable construction.

A large heating surface.

Direct and Indirect Draft through one smoke collar.

All cast-iron construction, which allows for proper expansion and contraction.

Large Ash-Pit and Door, large Fire Door.

Can be fitted with a Water Back to provide for domestic supply of hot water.

Can be fitted with Combination Hot Water Attachment for the heating of Porch, Conservatory, Servant's or other distant Apartments; capable of providing for 150 to 450 feet of radiation.

On account of its greater efficiency and larger heating surface, in many cases one Furnace does the work of two.

Can be fitted with Automatic Air Moistening Pans, which arrangement equalizes and regulates the amount of moisture.

Grates are interchangeable, and with our Hanger and Key, can be changed by anyone in a few minutes without cutting a bolt.

Our expanding heat columns are self-cleaning and overhang the fire.

The inside casing is cast-iron instead of sheet steel and much more durable.

The heated air is free from coal gas and coal dust.

Regulating dampers and drafts enable you to keep fire forty-eight (48) hours without adding coal.

Has no Fire-Pot to burn out, the front Fire Plate forming the vulnerable part of what would be the Fire-Pot, and may be replaced within an hour by one man without taking down any part of the Furnace and at a very small cost.

James Spear Stove and Heating Company

Description of

SPEAR'S NEW WARM AIR DISTRIBUTOR

Provides a large amount of heating surface capable of caring for an increased quantity of cold air, thereby insuring pleasant, healthful air, at a proper temperature, in a large enough volume to provide fully for all apartments connected to the Apparatus.

In providing this large heating surface to give the desired results, to any person who wishes a well-heated house, we have, at the same time, constructed a Heater which is heavy, durable, easy to put together, simple to manage, and economical in the consumption of fuel.

Durable Construction

Every part is made of the best iron and cast heavy so as to stand severe use.

Economical in the Consumption of Fuel

Warm air columns form the fire cylinder and combustion chamber, and three sides of these columns overhang the fire chamber, thus receiving the fullest force of the fire, and at the same time allowing no place for the accumulation of soot or dust. This gives the largest amount of heating surface and allows for none of the waste that is found in many other Heaters from this cause.

There is a large space over the fire-pot, which is commonly called the "Combustion Chamber," the size of this allows for the mixing of the air with the gases from the coal, thus using what is often a waste product in other Heaters. This air is introduced through a brass wheel in the feed door, and also by means of the corrugations around the fire-pot.

The Spear New Warm Air Distributor

James Spear Stove and Heating Company

Between the columns and the inside casing there is another flue, the front of which is formed by the back of the warm air column, and the back by a cast-iron casing; the products of combustion pass out between each column into this flue, and are used for the heating of additional surface before passing out the smoke pipe and chimney.

Grates

Spear's New Warm Air Distributor is fitted with a Triangular Duplex Grate with improved Grate Holder, and is so put in that it can be removed at any time without the cutting or unscrewing of any bolts or disturbing of the ash-pit door or any other part of the Distributor. This is accomplished by the use of our improved Grate Holder. Each section of the grate may be turned entirely around without risk of dropping the fire or breaking lugs or other parts of the Distributor.

It is also fitted with Spear's Anti-Clinker Grate, which is so well known that it is unnecessary to give further description.

Ash-pit and Doors

The ash-pit is 16 in. deep from the top of the grates, which provides an unusually large space for the accumulation of ashes under the grate, which serves the purpose of preserving the grate and at the same time allowing space for air to pass under the grate and through the coal in order to make proper combustion of fuel.

The ash-pit door is the full height of the ash-pit and allows easy access for the shovel in the removal of ashes, and a clear view of the under side of the grate.

The ash-pit door is fitted with a small lift door, which is used in connection with increasing or checking the draft, and with a chain connection, which is also attached to the draft regulator in the pipe, providing a perfect control of the fire.

The Spear New Warm Air Distributor

James Spear Stove and Heating Company

Feed Door

The feed door is extra large, giving a full view of the fire and making it convenient and easy to add fuel or get at the top of fire. The feed door is fitted with an inside perforated lining, thus taking the chill off the air as it passes through to the combustion chamber. Air is admitted through the perforated plate by means of a brass wheel fitted on the fire door.

The feed door allows also for the putting on of large chunks of wood, which is frequently desirable in fall and spring, to take the chill off the house before the coal fire is started.

On these doors are the Alaska Cold Handles, which stand away from the door, and are always cool.

Drafts

Direct and indirect drafts are combined in one by means of a special construction, thus making it necessary for only one smoke collar instead of two, as used in the ordinary Heater. This is accomplished by the use of a damper, the same as the one which is used in our Calorific Stoves.

Liberal smoke passages are provided, assuring ready response and regulation, and the same down draft principle patented, and used in our Silver Moon and New Silver Moon Stoves, is effected and carried out in our New Distributor.

The check damper with valve opening into the smoke pipe is fitted for use on either perpendicular or horizontal pipes, and is designed to operate with or without chain. It can be operated with a chain in connection with the draft door in the ash-pit, and carried to our specially designed draft plates located in a hall or living-room and drafts put on and taken off of the Heater without going into the cellar.

This draft damper is on the same principle as our draft arrangement on the New Cooking Range, which has resulted in the saving of from fifteen to fifty per cent. in the consumption of fuel over the ordinary range.

The Spear New Warm Air Distributor

James Spear Stove and Heating Company

Efficiency and Heating Surface

The height of this New Distributor is considerably less than the ordinary Heater, thus allowing it to be placed in the cellar without providing a pit, and at the same time giving a very much better elevation to the pipes.

Our expansion column and indirect draft flue provide from two to three times the heating surface found in the ordinary Furnace.

This Heater may be used in battery form by placing the two Heaters together with one common dome or top, and be used to heat the largest houses, city or country, churches or other public buildings.

Our New Distributor is also provided with a direct flue system, so that connection can be made with individual rooms which are especially difficult to heat.

We believe we have combined the best methods of providing heating surface, construction and efficiency in SPEAR'S NEW WARM AIR DISTRIBUTOR.

A Few Pages of Practical Suggestions

The Method and Heater

You cannot be too careful deciding the *method* of Heating you will use, and it is equally important that you select the right kind of a Heater.

It pays to have a Furnace a size larger than actually required. It saves coal, labor and adds to the life of your Heater. Overwork will wear out anything—even Cast Iron.

Have your Apparatus and Plant installed by a careful and competent Heating Contractor.

Remember that the value of a Guarantee depends almost entirely upon the man who gives it; therefore, do not ask for an unreasonable guarantee, for responsible Contractors are unable to give them.

The Spear New Warm Air Distributor

James Spear Stove and Heating Company

Installation

Have all heat flues lined with one cross bright tin pipe covered with asbestos paper.

Do not try to heat two or three rooms with one riser.

Protect the studding and joists with tin lining and asbestos covering.

Where pipes are in partitions, do not cover with wooden lath, but with expanded metal held in place by means of metal lath.

In most cases it is desirable to use convex registers where heat pipes pass up in partitions, this gives larger and freer outlets of the heat into the room; where registers are placed in brick flues, the regular register is satisfactory.

Where it is necessary to have heat pipes in outside walls, not only cover the heat pipes with asbestos covering, but place a lining of heavy asbestos millboard between the pipe and stone or brick outside wall.

Bottom boxes that connect the pipes in the partition with the cellar pipe should be of liberal size and connections made by means of easy angles.

Don't think any slit in the wall will do for a heat pipe.

Have your wall pipes large—it may be necessary to thicken a partition.

There should be at least 12 inches space between the top of the Heater casing and the bottom of the joists, and when heat pipes are of extra length, there should be at least 1 inch rise for each foot of pipe.

It is an economical investment to have all heat pipes in the cellar covered with air-cell asbestos covering, and the dome of the Heater covered with plastic asbestos.

Outside Fresh Air

In locating the fresh air intake, avoid taking it from the South, and, if possible, do not bring it from a direct East point; the points between the North and West are the most satisfactory.

The Spear New Warm Air Distributor

James Spear Stove and Heating Company

In constructing your cold air box, have it fitted with a Ratchet damper so that when you check off the outside air, at such times as there is a low fire, or during the night when the windows in the house are open, there will still be a circulation of air and a warm house assured for the morning.

Again, you can place a register face in Hall, or in the cold end of a large Living Room, and connect it to the base of the Heater and circulate the air in the house.

This plan is a good one in extremely cold climates, or for use during the night, or with very high winds blowing outside.

A Comfortable Home Has Good Chimneys

Chimneys

The Heater or Range does not have a draft, but the chimney does; therefore, have the flue large enough and have a separate flue for each Appliance.

Do not have several terra-cotta flues in one chimney without a division of either brick or cement between them; the terra-cotta will crack and cause leaky flues, which checks the draft.

Do not have a dead air space of more than 12 inches below where the smoke pipe enters the flue.

Do not parge the inside of flue; the sulphur and moisture loosens the parging and you have a rough or leaky flue.

Do not use glazed terra-cotta for flue lining.

Have your chimney extend not less than 12 inches, and from that to 24 inches above the highest point of the house; this will avoid a down draft and the Apparatus will draw satisfactorily whichever way the wind blows.

If you put a stone top over your Open Fire Grate, or other flue, see that the space between the under side of the stone and the point where the chimney stops is the same distance as the diameter of your flue.

The Spear New Warm Air Distributor

James Spear Stove and Heating Company

A stone chimney should have a brick or heavy terra-cotta lining.

An old chimney may be large enough and high enough, but should it need pointing at the top, you will have a poor draft.

Do not reduce the size of your smoke pipe on Appliances, but enlarge the hole leading into the flue.

Do not build a house without at least one Open Fire Grate for either wood or coal burning; they are an addition to the comfort and health of the house.

Have your Open Fire Grate flues fitted with a Ratchet Damper, if you do not use a Spear Open Grate or Backs or Jambs; these latter Appliances accomplish the same purpose with the Reflector and Back Check Plate.

In setting terra-cotta flue lining in the flue, see that they set squarely on each other, and in good mortar and cement.

For a No. 40, or less size Warm Air Heater, there should be an 8 x 12-in. flue, and for the larger sizes, 12 x 12-in. flues.

Where a Battery of two Heaters is being connected to one flue, it should not be less than 12 x 16 inches. A separate flue may be used for each Heater.

An Open Grate flue should not be less than 8 x 12 inches, and larger, depending on the size of the Open Fire Grate or Fire Place.

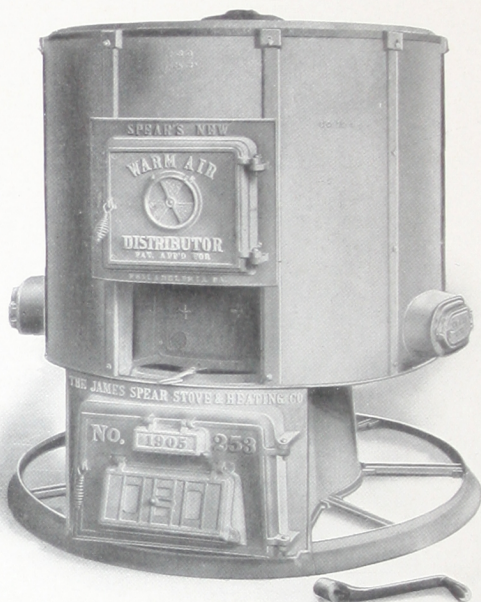
Keep the Heater smoke pipe at least 8 inches from the under side of the joist, and at such points where there is not 12 inches between the smoke pipe and joists, line the wood work with tin and asbestos.

Place a small clean-out door below where the smoke pipe from the Furnace enters, so that you may burn some paper in this clean-out door before starting the Furnace fire; this will warm your chimney and keep your Furnace from smoking when making a new fire.

Have your smoke pipe from the Heater taken down during the Summer, and see that the Heater is thoroughly cleaned when the smoke pipe is put up in the Fall.

The Spear New Warm Air Distributor

James Spear Stove and Heating Company



*Mounted Complete showing inner casing (ready for
outside galvanized casing)*

The Spear New Warm Air Distributor

James Spear Stove and Heating Company

Sizes and Capacities of SPEAR'S NEW WARM AIR DISTRIBUTOR

Size	Capacity	Price Cased Complete	Water Back
No. 247	Buildings below 30,000 cu. ft.	\$135.00	\$ 6.50
No. 253	30,000 to 55,000 cu. ft.	175.00	8.50
No. 259	50,000 to 75,000 cu. ft.	225.00	10.00
No. 265	70,000 to 100,000 cu. ft.	300.00	12.00

	Grate	Fire-Pot	Size Cold Air Box
No. 247	19 inches	20 inches	12 in. x 36 in.
No. 253	23 "	24 "	14 in. x 40 in.
No. 259	27 "	28 "	14 in. x 48 in.
No. 265	31 "	32 "	16 in. x 50 in.

	Height of Castings	Height of Casings
No. 247	4 ft. 8 in.	5 ft. 9 in.
No. 253	4 ft. 10 in.	5 ft. 10 in.
No. 259	5 ft. 4 in.	6 ft.
No. 265	5 ft. 6 in.	6 ft. 6 in.

Spear's Automatic Air Moistener

No. 247	Pans and Equipment.....	\$20.00
No. 253	" " "	25.00
No. 259	" " "	30.00
No. 265	" " "	35.00

Waterback prices are based on 30-40-50-60-gallon Boilers for respective sizes. If larger quantity is required, or Return Circulating System used, Water Backs may be reinforced at extra expense, and capacity increased.

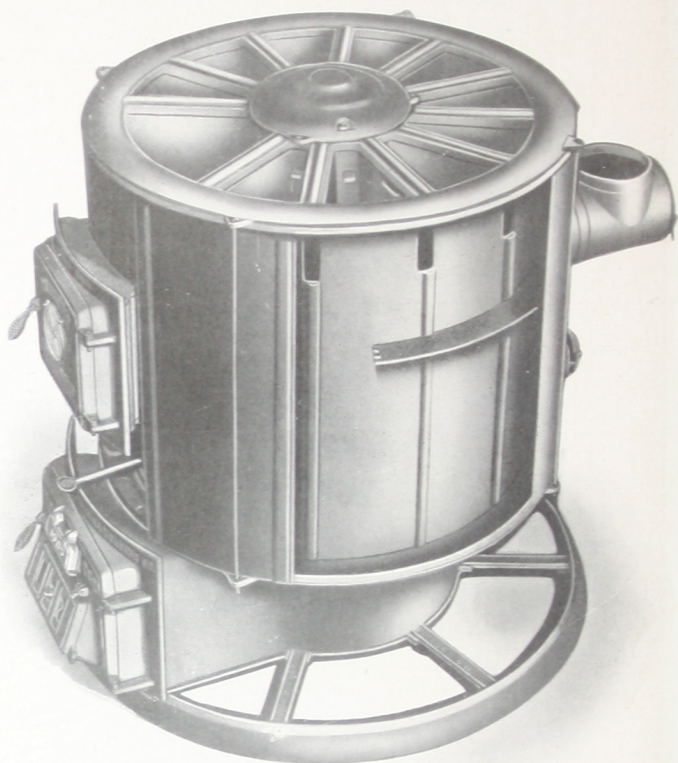
Porch, Conservatory, Third Floor Rooms, Kitchen Wing, or other distant points may be heated with a Champion Water Heater fitted in the Distributor, and provide for from 150 to 450 feet "A" of radiation. Price on Water Heater on application.

In figuring the size of Heater you require, not only consider the cubic feet of space in the rooms, but also allow for your exposure, glass surface, the kind of building and the number and length of pipes.

When considering ratings on Heaters, remember they provide for varying climates. In sections where long and severe Winters prevail, it is well to consider the minimum rating.

The Spear New Warm Air Distributor

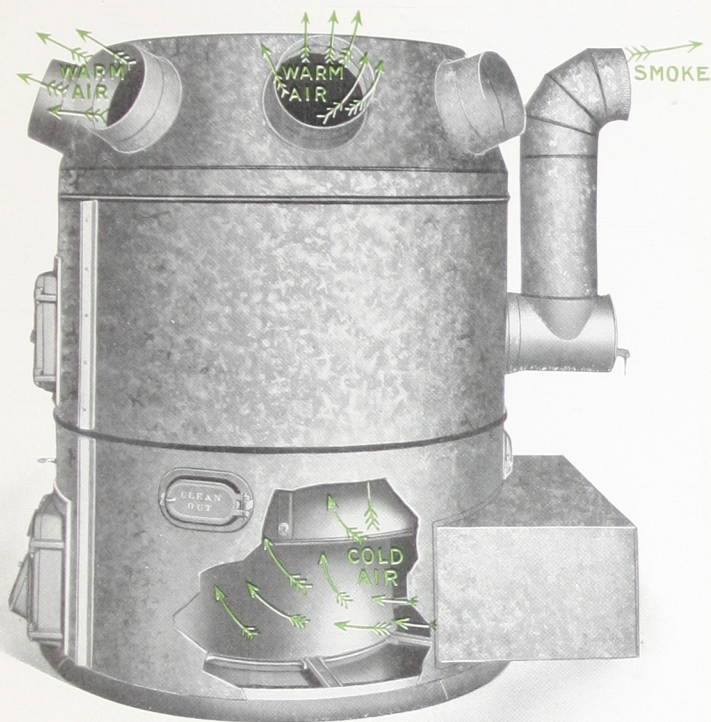
James Spear Stove and Heating Company



*With section of Inner Casing out and showing top of
Heat Flues*

The Spear New Warm Air Distributor

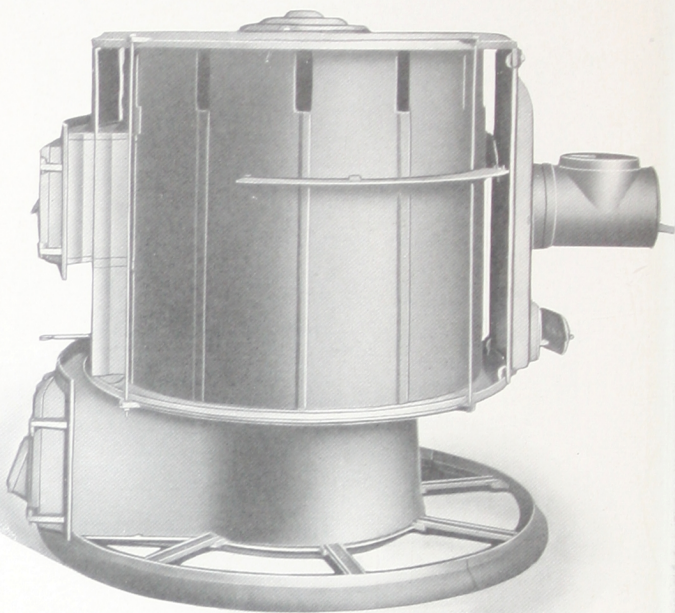
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*Casing cut and arrows showing cold air entering at the base and passing out heated at the top
Smoke Collar and Pipe with direct and indirect damper*

The Spear New Warm Air Distributor

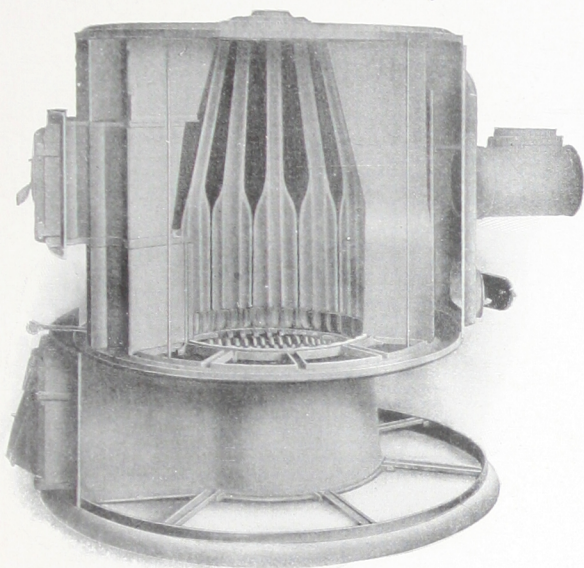
James Spear Stove and Heating Company



*Mounted ready for Inner Casing, Smoke Collar and
indirect Flue Strips shown in place*

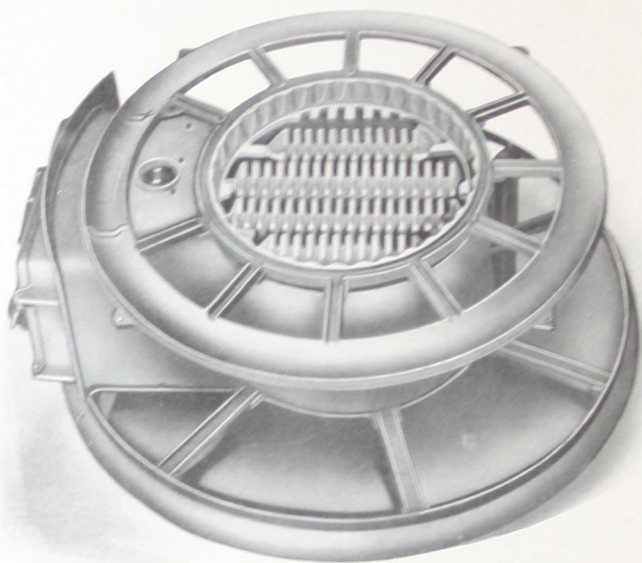
The Spear New Warm Air Distributor

James Spear Stove and Heating Company



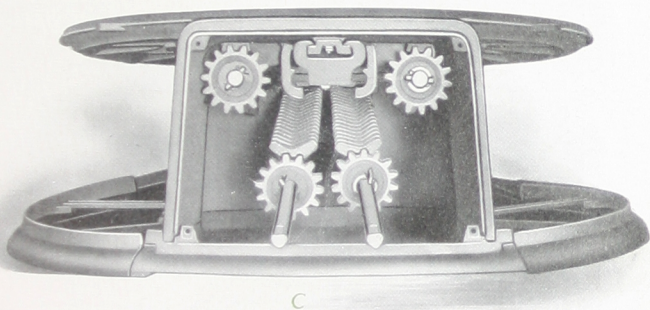
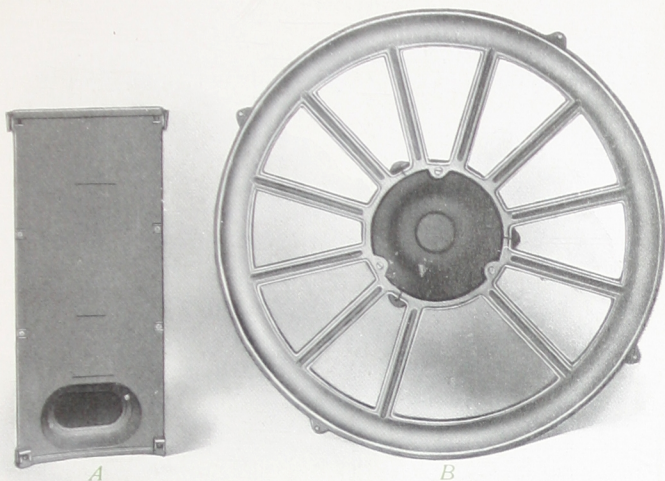
*Sections removed to show Firepot and
Combustion Chamber*

The Spear New Warm Air Distributor



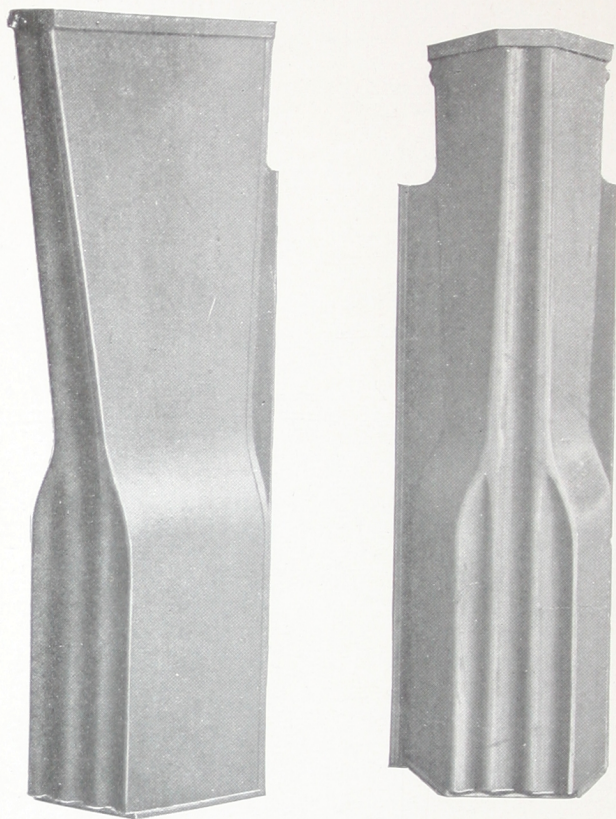
Base showing Grates in position and lower Deck Head

James Spear Stove and Heating Company



*Showing section of inside Cast Iron Lining "A,"
Top Deck Plate "B" and Ash-pit with
Grate Hangers and Key "C"*

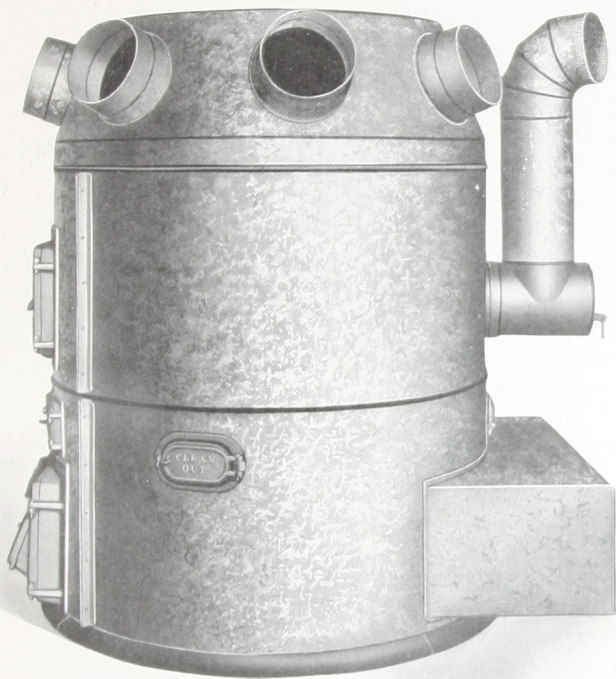
The Spear New Warm Air Distributor



Two sections of Warm Air Columns

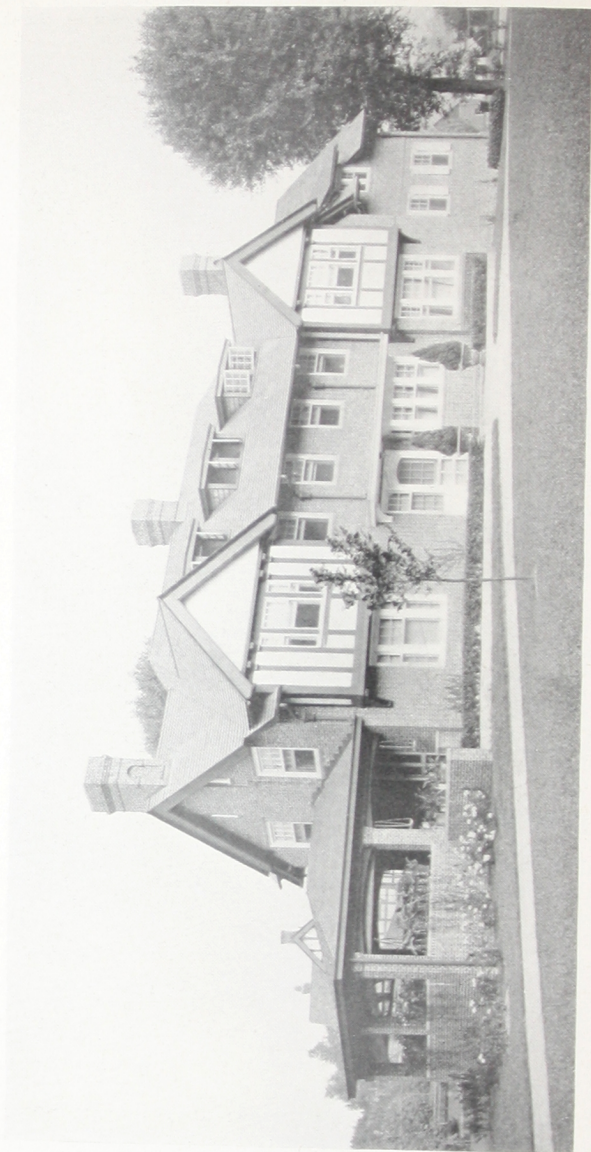
The Spear New Warm Air Distributor

James Spear Stove and Heating Company



Cased complete ready for Heat Pipes

The Spear New Warm Air Distributor



RESIDENCE OF MR. H. M. WATTS, OGONTZ, PA.

1-265 Spear N. W. A. Distributor

BAILY AND BASSETT, ARCHITECTS



DINING ROOM WING OF COUNTRY RESIDENCE OF MR. R. KELSO CASSATT

I-265 Spear N. W. A. Distributor

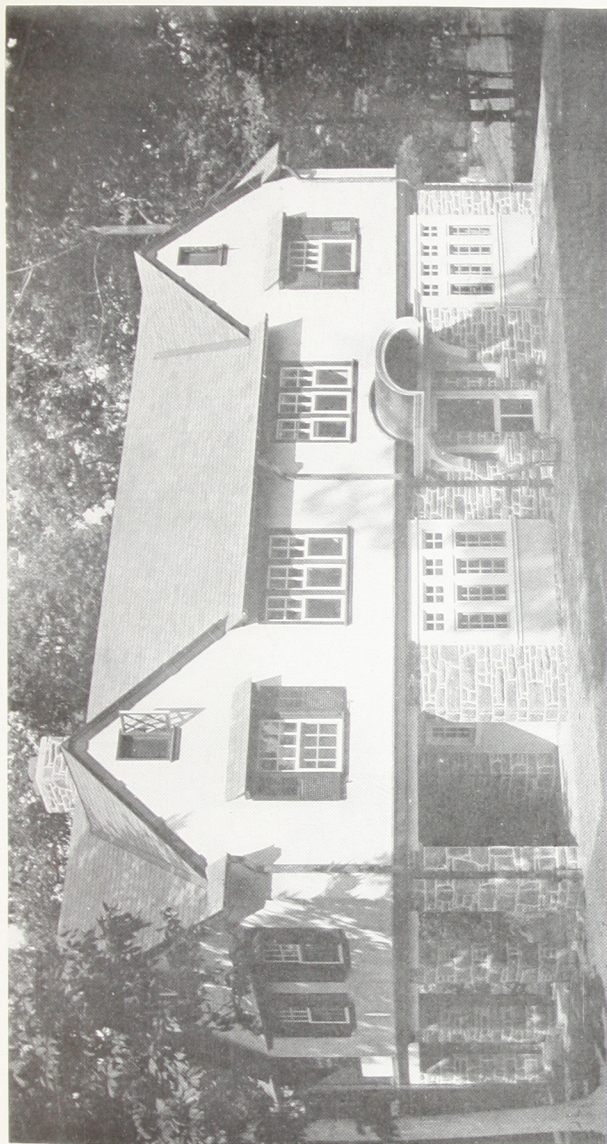
COPE AND STEWARDSON, ARCHITECTS



RESIDENCE OF MR. SAM'L HIGH, JENKINTOWN, PA.

HEACOCK AND HOKANSON, ARCHITECTS

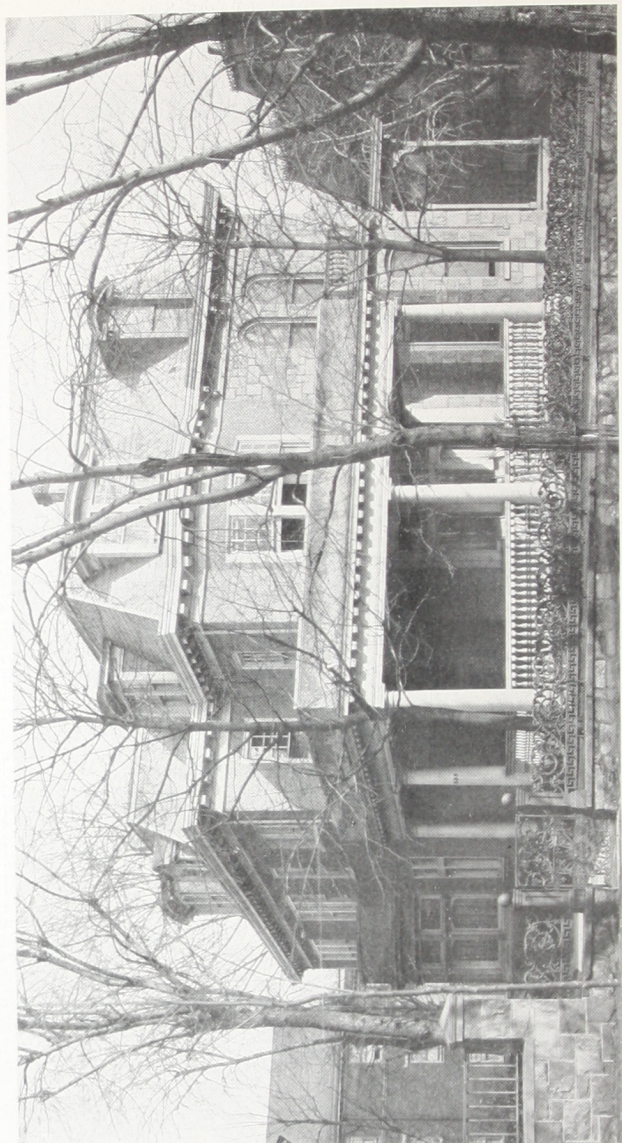
1-265 Distributor



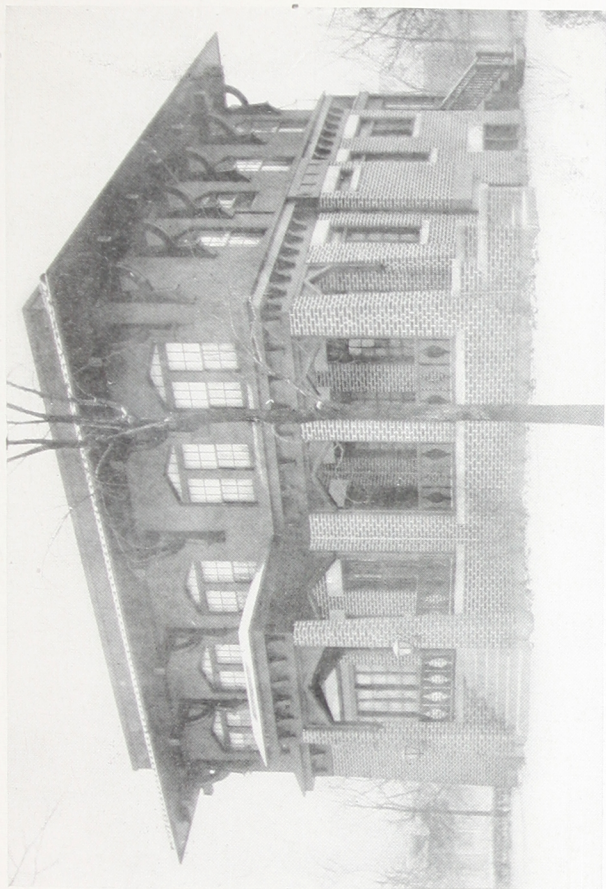
RESIDENCE OF MRS. LIPPINCOTT, MOYLAN, PA.

SAVERY, SHEETZ AND SAVERY, ARCHITECTS

I-259 Distributor



RESIDENCE OF MR. G. H. FRY, 225 SOUTH FORTY-SECOND STREET, PHILADELPHIA
HEACOCK AND HOKANSON ARCHITECTS
1-265 Distributor



RESIDENCE, BUFFALO, N. Y.

G. MORTON WOLFE, ARCHITECT, BUFFALO, N. Y.

I-259 Distributor



RESIDENCE, BUFFALO, N. Y.

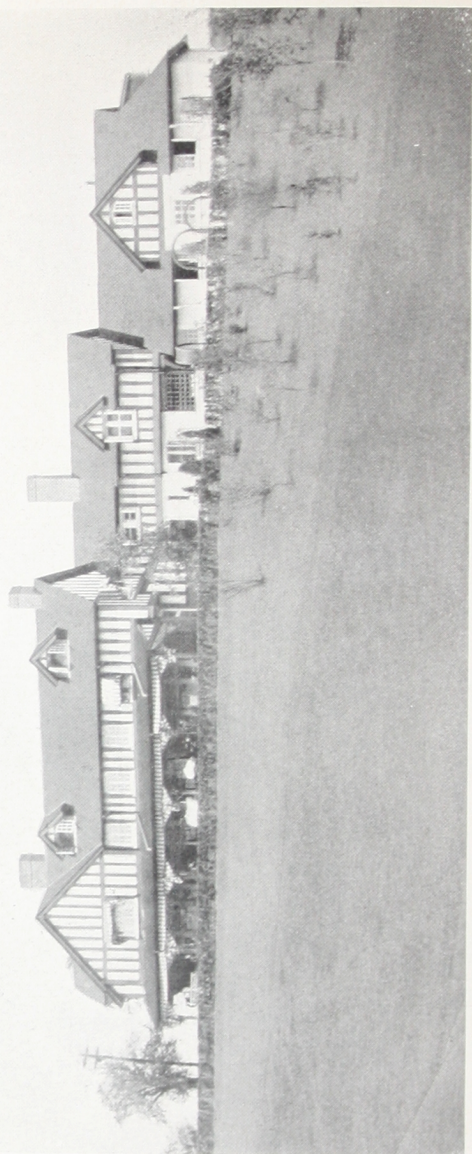
1-259 Distributor

MR. CHAS. G. DUFFY



PLYMOUTH M. E. CHURCH, BUFFALO, N. Y.

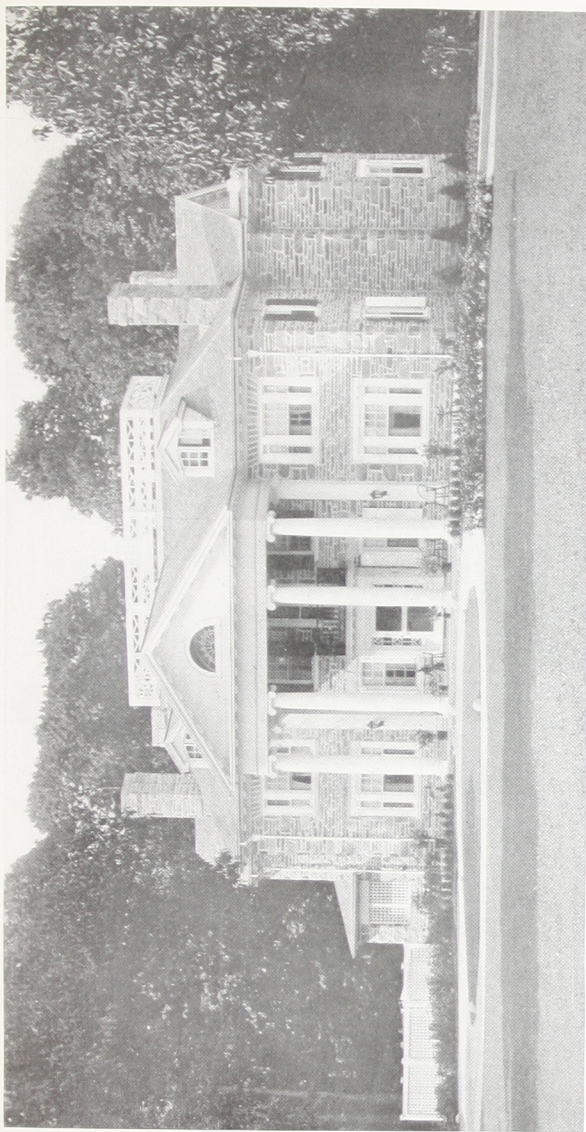
1-255 Distributor



VILLA NOVA CO., LTD., VILLA NOVA, PA.

BAILY AND BASSETT, ARCHITECTS

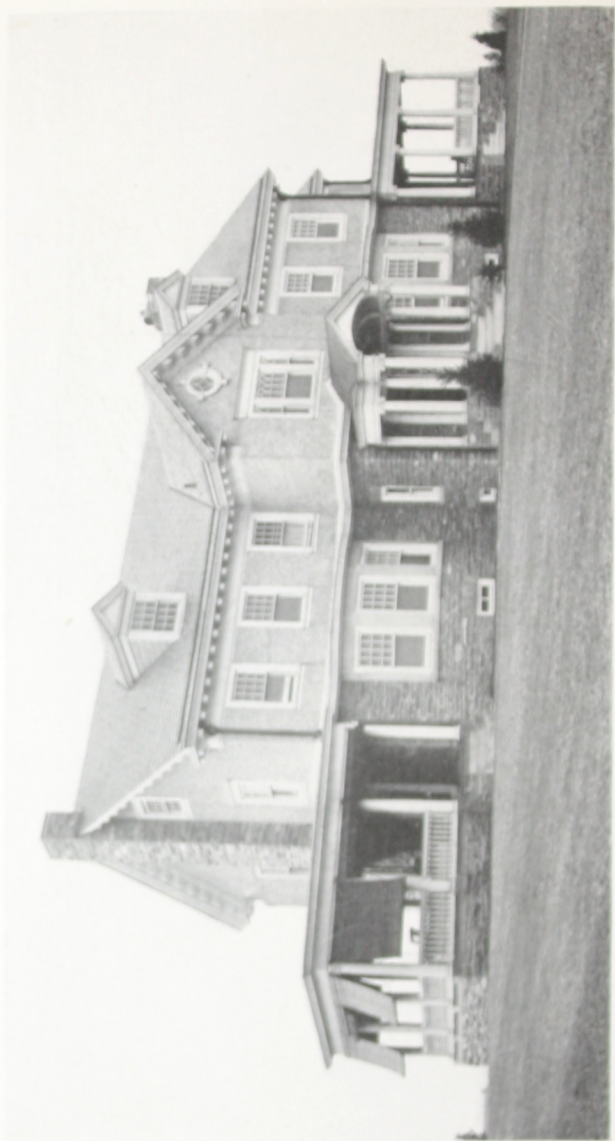
I-265 Distributor



RESIDENCE OF MR. JOSHUA L. BAILY, ARDMORE, PA.

2-259 Distributors and Combinations

BAILY AND BASSETT, ARCHITECTS



RESIDENCE OF MR. ARTHUR DORRANCE, RIVERTON, N. J.

1-265 Distributor

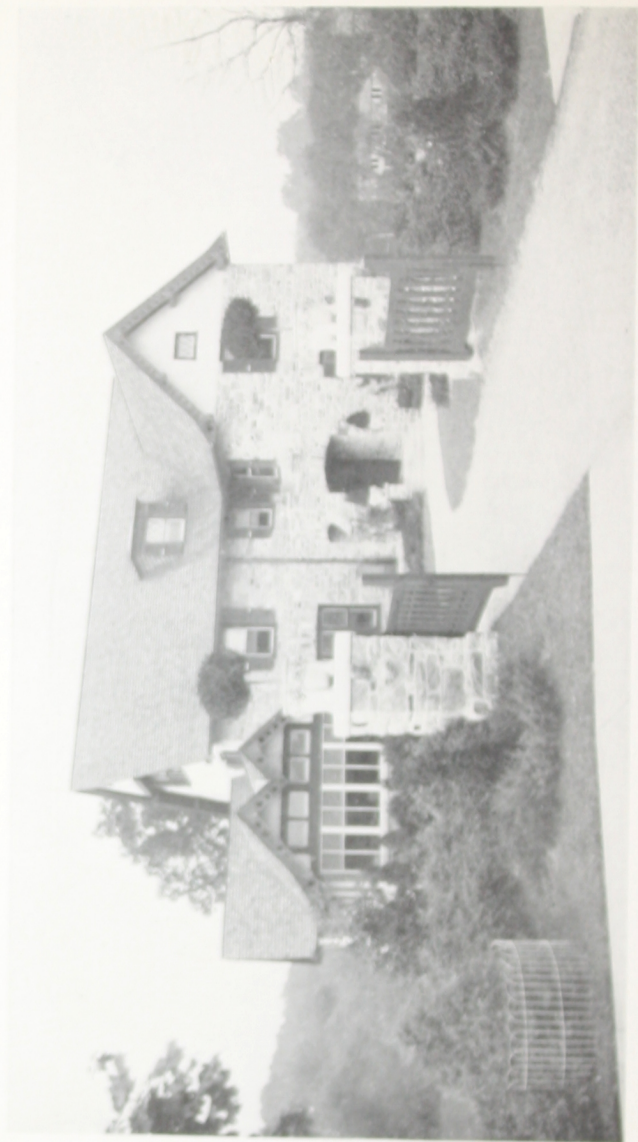
W. A. MacCOMB, ARCHITECT



MR. WALTER LIPPINCOTT'S RESIDENCE, RIVERTON, N. J.

G. W. AND W. D. HEWITT, ARCHITECTS

1-253 } Distributor
1-247 }



"SEVEN GABLES," SWARTHMORE

L. C. HICKMAN, ARCHITECT

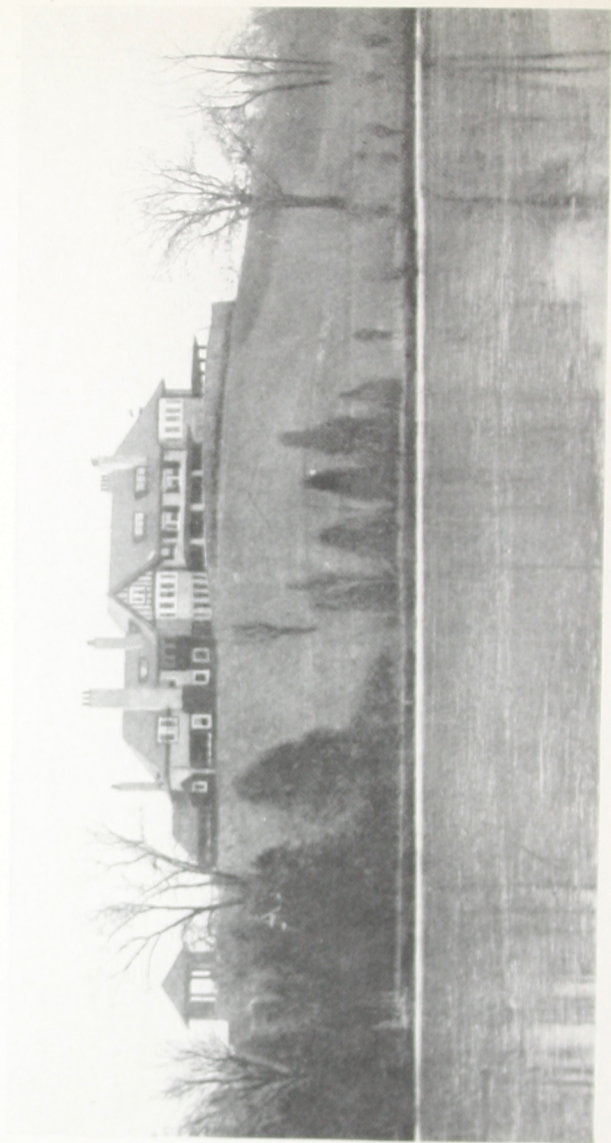
1-255 Distributor



MR. W. G. ELLS, MELROSE PARK, PA.

C. E. SCHERMERHORN, ARCHITECT

259 Distributor



RESIDENCE, DETROIT, MICH.

2-265 Spear's N. Warm Air Distributors

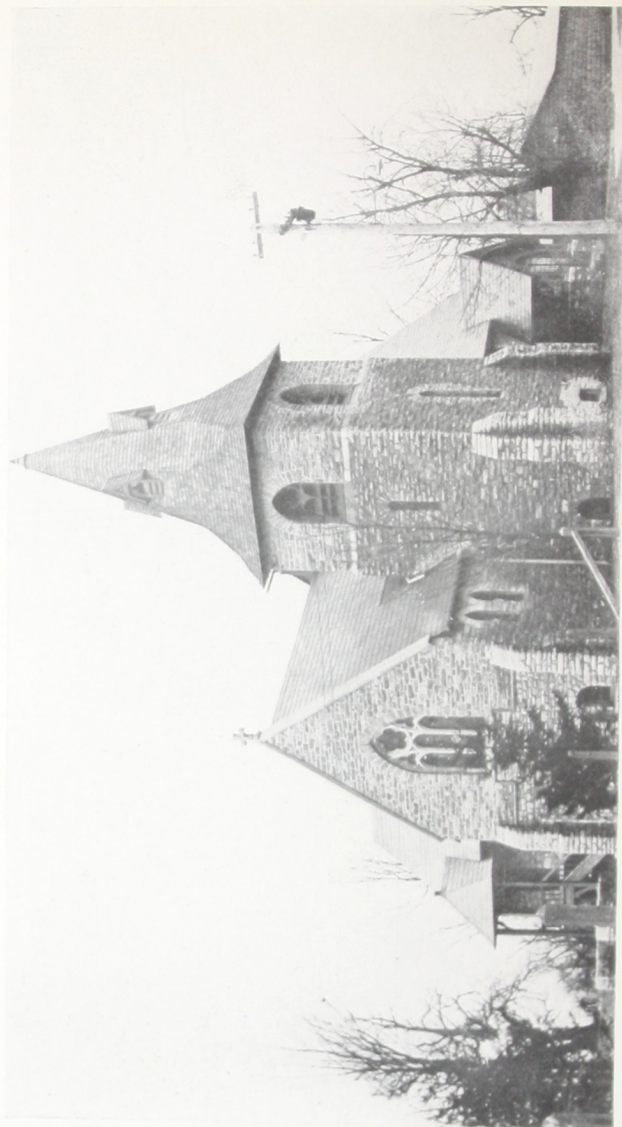
KAHN AND WILBY, ARCHITECTS, DETROIT, MICH.



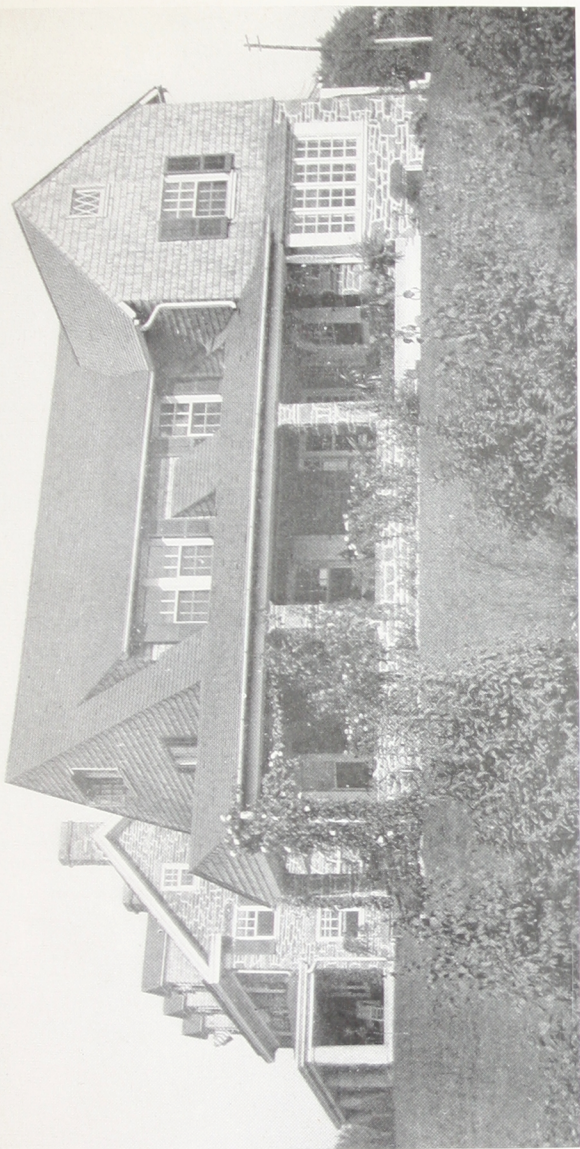
MISS WOOD, PAOLI, PA.

WALTER SMEDLEY, ARCHITECT

I-253 Distributor



CHURCH OF GOOD SAMARITAN, PAOLI, PA.
The Church, Rectory and Parish House heated with Spear Heaters



EDGAR GARDNER, CYNWYD
259 Distributor
CLARENCE GARDNER, ARCHITECT

WM. C. SHEETZ, CYNWYD
253 Distributor
SAVERY, SHEETZ AND SAVERY, ARCHITECTS



PENSAUKEN HIGH SCHOOL, MERCHANTVILLE, N. J.

ARNOLD H. MOSES, ARCHITECT

4-253 Distributors

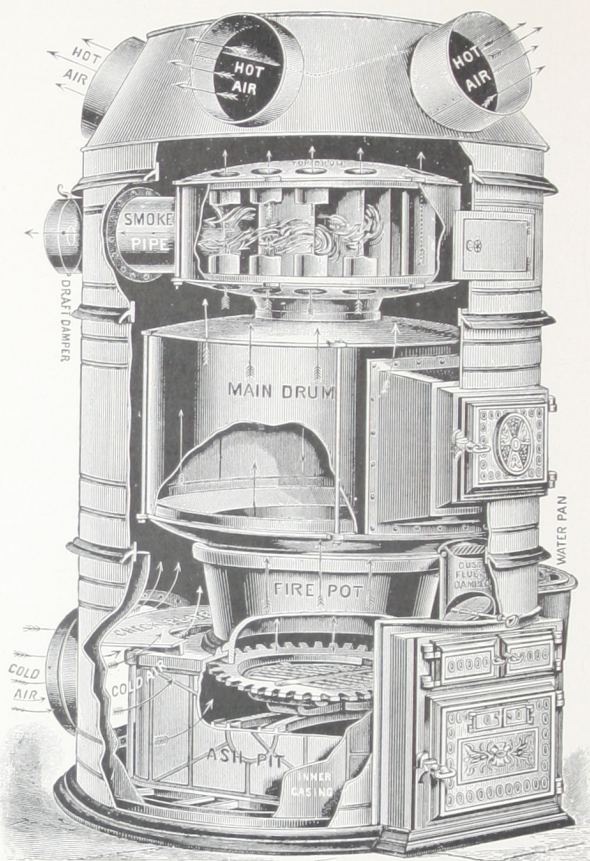


M. E. CHURCH, KINGSTON, PA.
Heated with Spear's New Warm Air Distributor

Spear's Anti-Clinker Steel Drum Warm Air Heater

For Anthracite or Bituminous Coal or Coke

Is made in both PORTABLE and BRICKSET Types, and is a first class Heater of the Steel type, with Cast Iron Drum Heads. All sizes fitted with tubes, and either Brick or Cast Iron Firepot.



	SINGLE DRUM	DOUBLE DRUM
No. 30 Heater	4 ft. 7 in. high	\$ 68.00
No. 33 Heater	4 ft. 9 in. high	84.00
No. 38 Heater	5 ft. 2 in. high	112.00
No. 40 Heater	5 ft. 4 in. high	120.00
No. 45 Heater	6 ft. high	140.00
No. 50 Heater	6 ft. high	156.00
		\$ 96.00
		124.00
		132.00
		148.00
		168.00

The Double Drum Heater is about 12 in. higher than the Single Drum.

James Spear Stove and Heating Company

WE MANUFACTURE

Spear's New Cooking Range

(Colonial and Ornamented Pattern)

Spear's New Warm Air Distributor

Spear's 20th Century Laundry Stove

Spear's 20th Century Water Heater and
Laundry Stove combined

Spear's Anti-Clinker Heater

(Steel Drum Type)

Open Grates and Backs and Jambs

Fire Place Heaters

Franklin Stoves

Stoves for Stable and Garage

A Stove for every Purpose

We handle Steam and Hot Water Heating
Appliances and Radiators

Send for a Complete Catalogue of Ranges, Stoves, etc.

The Spear New Warm Air Distributor

When Considering the Range

Remember—

- No. 7-12 Range (Single Oven)
2 ft. 9 in. long x 23 in. deep.
Entire height—4 ft. 2½ in.
Oven—12 in. wide x 17 in. deep.
- No. 8-15 Range (Single Oven)
3 ft. 2 in. long x 23 in. deep.
Entire height—4 ft. 6½ in.
Oven—15 in. wide x 20 in. deep.
- No. 8-20 Range (Single Oven)
3 ft. 7 in. long x 28 in. deep.
Entire height—4 ft. 6½ in.
Oven—20 in. wide x 20 in. deep.
- No. 8-13 Range (Double Oven)
4 ft. 4 in. long x 28 in. deep.
Entire height—4 ft. 6½ in.
Ovens—13 in. wide x 20 in. deep.
- No. 8-25 Range (Double Oven)
4 ft. 8 in. long x 28 in. deep.
Entire height—4 ft. 6½ in.
Ovens—15 in. wide x 20 in. deep.
- No. 18 Range (Double Oven)
5 ft. 5 in. long x 31 in. deep.
Entire height—4 ft. 7 in.
Ovens—18 in. x 22 in.

Made in any length and combination.

The length and width of all ranges are the actual floor space covered.

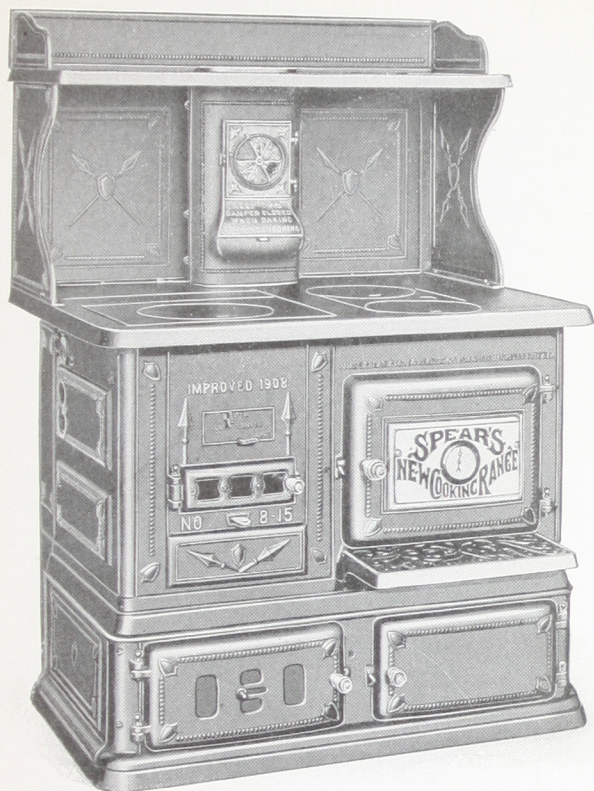
Where the Boiler is over forty (40) gallons in size and there are two or more Bath Rooms, a Range which can be fitted with a 1900 Water Back should be selected.

If the Laundry is in the basement do not connect the Laundry Jacket to the bottom of the boiler, but have cold water pipe at least 8 inches above bottom of Boiler, and connect circulating pipe at top of Boiler.

Provide a Ventilating flue for removing the cooking odors from the Kitchen—never put a Ventilating Register in your Range smoke flue.

A Range that saves coal and labor is cheaper than an ordinary one, even though it does cost more at first.

James Spear Stove and Heating Company



*Single Oven Colonial Pattern made with either Right
or Left Hand Oven—2 Sizes. Made in
Ornamental Design—3 Sizes*

Spear's New Cooking Range

James Spear Stove and Heating Company



*Double Oven Colonial Pattern with Right or Left
Hand Tubes—2 Sizes. Made in Orna-
mental Design—2 Sizes*

Ranges for Hotels and Institutions

Spear's New Cooking Range

Over Three Hundred Thousand
SPEAR APPLIANCES
have been sold



Established 1857

